IN THE CLAIMS

1. (Currently amended) A collimator comprising:

an optical fiber having an angled distal end;

a ferrule having an angled end face, wherein an end portion of the optical fiber is inserted in the ferrule; and

a plano-convex lens having a planar surface attached to the angled distal end of the ferrule, the plano-convex lens collimating a beam of light from the optical fiber, wherein the planar surface is parallel to the plane of the convex surface of the lens.

2. (Original) The collimator of Claim 1, wherein the optical fiber is glued to the ferrule.

3. (Original) The collimator of Claim 1, wherein the plano-convex lens is attached to the ferrule by a low viscosity, ultraviolet-curing adhesive.

4. (Currently amended) The collimator of Claim 1, wherein an air gap between ~~a~~ the planar ~~side~~ surface of the lens and a fiber end face is about 10 microns or less.

5. (Original) The collimator of Claim 1, further comprising a substrate with an angled hole shaped to fit the ferrule, the ferrule being inserted in the hole.

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6. (Original) The collimator of Claim 1, wherein an angle of the beam of light exiting the optical fiber is substantially equal to an angle of the beam of light exiting the plano-convex lens.

7. (Currently amended) The collimator of Claim 1, further comprising an anti-reflection layer on at least one of the angled distal end of the fiber, ~~a~~ the planar ~~side~~ surface of the lens, and ~~a~~ the convex side of lens.

8. (Currently amended) A method of collimating an optical beam comprising:

providing a planar, angled fiber termination;

providing a plano-convex lens having a planar surface and a convex surface, the planar surface parallel to the plane of the convex surface;

placing ~~a~~ the planar surface of the plano-convex lens over the planar, angled fiber termination such that a gap between ~~a~~ the planar ~~side~~ surface of the lens and a fiber end face is about 10 microns or less;

adjusting a lateral position of the lens parallel to a plane of a lens-fiber surface to achieve a desired pointing angle for a collimated light beam exiting the lens; and

fixing the lateral position of the lens with respect to the planar, angled fiber termination.

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9. (Original) The method of Claim 8, further comprising:

laterally aligning the plano-convex lens transverse to a fiber axis and with respect to the fiber end face to reduce optical aberrations in the collimated beam exiting the lens.

10. (Original) The method of Claim 9, further comprising minimizing spherical aberration.

11. (Original) The method of Claim 9, further comprising minimizing comatic aberration.

12. (Currently amended) The method of Claim 8, further comprising:

coating an anti-reflection layer on at least one of the fiber termination, the planar ~~side~~ surface of the lens, and ~~a~~ the convex side of the lens.

13. (Currently amended) The method of Claim 8, further comprising:

filling entirely the gap between the fiber termination and the planar ~~side~~ surface of the lens with a transparent material.

14. (Original) The method of Claim 8, further comprising:

moving a lens with at least one actuator with respect to the fiber termination.

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15. (Original) The method of Claim 8, further comprising:

adjusting the gap between the fiber termination and the lens to modify optical aberrations.

16. (Original) The method of Claim 8, further comprising:

adjusting the gap between the fiber termination and the lens to modify a wavelength dependence of transmission and reflection.

17. (Original) The method of Claim 8, comprising:

adjusting the lateral position of the lens with respect to the fiber termination to change a pointing angle of the collimated beam.

18. (Original) The method of Claim 8, further comprising:

adjusting the lateral position of the lens with respect to the fiber termination to modify optical aberrations.

19. (Currently amended) A method of collimating a plurality of optical beams comprising:

providing an array of angled polished fiber terminations;

providing at least one plano-convex lens having a planar surface and a convex surface, the planar surface parallel to the plane of the convex surface;

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placing the planar surface of the at least one plano-convex lens on the angled fiber termination array such that a planar side of the lens is at a distance of about 10 microns or less to a fiber end face;

adjusting a lateral position of the lens parallel to a plane of a lens-fiber surface to achieve a desired pointing angle for a light beam exiting the lens; and

fixing the lateral position of the lens with respect to the fiber termination array.

20. (Currently amended) A method of collimating an optical beam comprising:

providing an array of plano-convex lenses, wherein the planar convex lenses have planar surfaces and opposing convex surfaces, wherein the planar surfaces are parallel to the plane of the opposing convex surfaces;

placing an angle polished fiber termination under one of the planar surfaces of the plano-convex lenses such that a gap between a planar side of the lens and a fiber end face is about 10 microns or less;

adjusting a lateral position of the fiber termination parallel to a plane of the lens-fiber surface to achieve a desired pointing angle for a light beam exiting the lens; and

fixing a position of the fiber termination.

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